

What is Claimed is:

1. A reflected energy detecting device, comprising:

a transmitter for transmitting an electromagnetic signal;

a receiver for receiving a reflected electromagnetic signal;

an antenna operatively connected with the transmitter and the receiver for

5 radiating the electromagnetic signal and capturing the reflected electromagnetic signal, the antenna being movable;

a main controller for controlling operation of the transmitter and the receiver and movement of the antenna; and

at least one platform, the at least one platform supporting:

10 a remote reflector being dimensioned and configured to redirect the transmitted electromagnetic signal in a desired direction; and

a platform controller configured to communicate with the main controller and to maintain alignment between the remote reflector and the antenna.

2. The device of claim 1, further comprising a phase shifter array positioned within a beam of electromagnetic energy formed by the transmitted electromagnetic signal and the reflected electromagnetic signal.

3. The device of claim 2, wherein the platform controller is configured to control operation of the phase shifter array.

4. The device of claim 3, wherein the phase shifter array comprises a space fed phased array radar antenna.

5. The device of claim 2, wherein the phase shifter array is integrally connected with the relector.

6. The device of claim 1, wherein:

the remote reflector is movably supported by the platform; and

the main controller comprises a main computer and the platform controller comprises a platform computer and wherein commands are communicated between the main computer and the platform computer for effecting movement of the remote reflector to scan the transmitted electromagnetic signal over a desired area.

7. The device of claim 1, further comprising a stabilizer and a vibration isolator disposed between the at least one platform and the remote reflector.

8. The device of claim 7, further comprising an actuator disposed between the at least one platform and the remote reflector, the actuator being configured to provide rotational and translational relative movement between the at least one platform and the remote reflector and wherein the platform controller is configured to control

5 operation of the actuator.

9. The device of claim 1, wherein the main controller and the platform controller communicate via at least one of wireless and wired communications.
10. The device of claim 1, wherein the transmitted electromagnetic signal is transmitted in the radio frequency band.
11. The device of claim 1, wherein the transmitted electromagnetic signal is transmitted in the light frequency band.
12. The device of claim 1, wherein the at least one platform is movable.
13. The device of claim 1, wherein the at least one platform is mobile.
14. The device of claim 13, wherein the at least one platform comprises at least one of a mobile tower, an airship, an aerostat, a piloted aircraft and an unpiloted aircraft.
15. The device of claim 1, wherein the at least one platform comprises a plurality of movable platforms.
16. The device of claim 1, wherein the remote reflector comprises a reflective surface which is generally flat.

17. The device of claim 1, wherein the remote reflector comprises a metallic substance.
18. The device of claim 1, wherein the antenna is dimensioned and configured to focus the transmitted electromagnetic signal at the location of the at least one platform.
19. The device of claim 1, wherein the platform further comprises position sensors being operatively connected with the platform controller.
20. The device of claim 1, wherein the antenna comprises a directional antenna.